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Group 3726

REMARKS

Claims 1-29 are pending and rejected in this application. Claims 1 and 10 are amended hereby; and claims 3 and 4 are canceled hereby.

Responsive to the rejection of claims 10-12 under 35 U.S.C. § 112, second paragraph, Applicant has amended claim 10, placing claim 10 in independent form such that the subject matter therein is definite and distinctly claims the subject matter of the invention. Applicant submits that claims 10-12 are now in allowable form.

Responsive to the rejection of claims 1, 2, 5-8, 13, 15 and 17-23 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 4,974,782 (Nelson'782), Applicant has amended claim 1 and submits that claims 1, 2, 5-8, 13, 15 and 17-23 are now in condition for allowance.

Nelson'782 discloses a pressure developer and rolls therefor having segments of elastomeric material for control of the modulus of elasticity (Figs. 1-7) including a cylindrical outer shell 30 and a loading shaft 35. A composite material 38 extends between outer shell 30 and loading shaft 35, thereby supporting outer shell 30. Composite material 38 has a compressibility or elastic modulus, which varies along the length of the roll from the axial center of the roll. Compensation for the bending of shaft 35 is achieved by providing a series of individual annular rings or segments formed of the elastomeric material. Compensation for the bending of shaft 35, as shown in Fig. 2, is accomplished by employing rings or segments 50 of identical material and by varying the axial width of individual segments 50. Another embodiment as shown in Fig. 3, includes elastomeric segments 60, which are of identical axial width W, but pitch L or spacing between segments is varied so that segments 60 are closest together near the axial center of the roll and are progressively spaced farther apart from the center. In another embodiment of the invention, as shown in Fig. 4, individual segments 70 of elastomeric material


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which provide compensation for bending of shaft 35 by having segments 70, which have a decreasing modulus of elasticity with an increasing distance from the center of the shaft. The modulus of elasticity of the center segment 70a has a maximum value as compared to decreasing modulus of each of the additional segments 70 with increasing distance from the center segment 70a (column 3, line 4 through column 4, line 7).

In contrast, claim 1, as amended, recites in part:

a base body being substantially cylindrical;

at least one rigid support ring into which said base body is inserted; 

a circumferential surface ... in contact with said at least one rigid support ring.

(Emphasis added.) Applicant submits that such an invention is neither taught, disclosed nor suggested by any of the cited references, alone or in combination, and includes distinct advantages thereover.

Nelson '782 discloses a pressure developer and rolls therefor having segments of elastomeric material for control of the modulus of elasticity including a cylindrical outer shell 30 and a loading shaft 35. A composite material 38 extends between outer shell 30 and loading shaft 35, thereby supporting outer shell 30. Composite material 38 has a compressibility or elastic modulus, which varies along the length of the roll from the axial center of the roll. However, Nelson '782 fails to teach or suggest a base body being substantially cylindrical, at least one rigid support ring into which the base body is inserted and a circumferential surface in contact with the at least one rigid support ring, as recited in part in amended claim 1.

The present invention as set forth in claim 1, as amended, has distinct advantages over the cited references in that the base roll is substantially cylindrical and is inserted into a rigid ring that is in contact with an outer cylindrical shell, thereby providing a rigid support point. This

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advantageously allows for easy manufacture of the roll, by allowing the base body to be inserted in the ring either prior to or after positioning of the ring in the cylindrical shell. Accordingly, Applicant submits that claim 1, and claims 2 and 5-8, 13, 15, and 17-23 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

Responsive to the rejection of claim 3 under 35 U.S.C. § 102(b), as being anticipated by U.S. Patent No. 3,750,246 (Pessen), Applicant has canceled claim 3.

Claims 9, 14 and 16 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nelson '782. However, claims 9, 14 and 16 depend from claim 1, and claim 1 has been placed in condition for allowance for the reasons given above. Accordingly, Applicants submit that claims 9, 14 and 16 are in condition for allowance, which is hereby respectfully requested.

Responsive to the rejection of claims 3, 4 and 10-12 under 35 U.S.C. § 103(a), as being unpatentable over Nelson '782 in view of Pessen, Applicant has canceled claims 3 and 4, and amended claim 10, and submits that claims 10-12 are now in condition for allowance.

Pessen discloses a composite roll A including a metal core member B and a metal outer cylindrical shell C (Figs. 1 and 2). The inner peripheral surface of shell C is cylindrical so that outer peripheral surface portions 24 and 26 of core member B diverge away from the inner peripheral surface of shell C when proceeding from central portion 22 toward opposite end portions 12 and 14. The annular spaces are filled with elastomeric material D, which is bonded to the inner peripheral surface of shell C and peripheral surfaces 24 and 26 of core member B (column 4, lines 26-58). Although pouring will work, using a vacuum arrangement is the optimum arrangement for completely filling the annular spaces with elastomeric material and insuring the complete and uniform distribution of elastomeric material D throughout the annular spaces (column 6, lines 23-30; column 8, lines 55-66; and column 10, lines 34-40).

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In contrast, claim 10, as amended, recites in part:

a base body;

at least one rigid support ring into which said base body is inserted;

a circumferential surface ... in contact with said at least one rigid support ring.

(Emphasis added.) Applicant submits that such an invention is neither taught, disclosed nor suggested by any of the cited references, alone or in combination, and includes distinct advantages thereover.

Nelson '782 discloses a pressure developer and rolls therefor having segments of elastomeric material for control of the modulus of elasticity including a cylindrical outer shell 30 and a loading shaft 35. A composite material 38 extends between outer shell 30 and loading shaft 35, thereby supporting outer shell 30. Composite material 38 has a compressibility or elastic modulus, which varies along the length of the roll from the axial center of the roll. Pessen discloses a composite roll including a metal core member B and a metal outer cylindrical shell C. The inner peripheral surface of shell C is cylindrical so that outer peripheral surface portions 24 and 26 of core member B diverge away from the inner peripheral surface of shell C when proceeding from central portion 22 toward opposite end portions 12 and 14. However, Nelson '782 and Pessen, alone or in combination with each other or any of the other cited references, fail to teach or suggest a base body, at least one rigid support ring into which the base body is inserted and a circumferential surface in contact with the at least one rigid support ring, as recited in part in amended claim 10.

The present invention as set forth in claim 10, as amended, has distinct advantages over the cited references in that the base roll is inserted into a rigid ring that is in contact with an outer cylindrical shell, thereby providing a rigid support point. This advantageously allows for easy

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manufacture of the roll, by allowing the base body to be inserted in the ring either prior to or after positioning of the ring in the cylindrical shell. Accordingly, Applicant submits that claim 10, and claims 11 and 12 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

Claims 24-29 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nelson '782 in view of Pessen. However, claims 24-29 depend from claim 1, and claim 1 has been placed in condition for allowance for the reasons given above. Accordingly, Applicant submits that claims 24-29 are in condition for allowance, which is hereby respectfully requested.

For the foregoing reasons, Applicant submits that the pending claims are definite and do particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Moreover, Applicant submits that no combination of the cited references teaches, discloses or suggests the subject matter of the amended claims. The pending claims are therefore in condition for allowance, and Applicant respectfully requests withdrawal of all rejections and allowance of the claims.

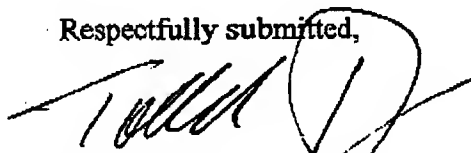
In the event Applicant has overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicant hereby conditionally petitions therefor and authorizes that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

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Should any question concerning any of the foregoing arise, the Examiner is invited to
telephone the undersigned at (260) 897-3400.

Respectfully submitted,



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CERTIFICATE OF MAILING

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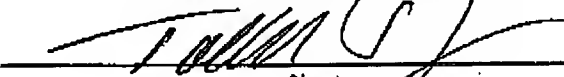
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Date